

- Purification of engineering oils, removing submicron particles in transverse flow filtration - is preceded by flushing cellulosic filter using surfactant, resulting in low filtration back pressure in operation, whilst particles are entrained in cross flow, minimising deposition and blockage.

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Oil containing impurities, including e.g. suspended matter, abraded metal, grease, saponification products and talc, can now be purified in a new transverse flow filtration process.

Preferably, the cross flow filter is cleaned before taking up filtration. It is flushed, using a hydrocarbon or cold cleaning agent. The agent is an acid- or alkali surfactant, or a corresponding water/surfactant mixture. Porous membranes and/or porous plastic filters are used. The filter comprises cellulose. The filter membrane has pneumatic equipment, cleaning it with a reverse flow of air.

USE - Used to clean industrial oils, especially from metal machining, holding particularly fine particles, below 5 μ m.

ADVANTAGE - The filtration process uses the most modern technology for filtration with e.g. ceramic or cellulose membrane filters, operated in the transverse flow mode. Tenside flushing reduces the surface tension and covers the filter surface. A surprising result is the low pressure at which oil passes through the filter. A further surprising result in this mode of filtration, is that particles scarcely settle on the filter, hence rapid blockage does not occur. The particles are entrained in the cross flow, and returned to the working vessel. Oils with particles as small as 0.1 μ m can be treated. The oils of various industries, and also engine oil, are purified in this way. A typical circuit including a prefilter and instrumentation, are illustrated.

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